POLLINATOR FRIENDLY PEST CONTROL

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- 2 know your pest
- 3 read labels & avoid neonaticides

Preventative Measures

It's best to prevent pests from entering the garden. Good garden and soil management is key.

Mix 1 cup apple cider vinegar, 1 cup sugar, and 1 cup water. Use this mixture to coat small pieces of banana peels. Thread banana pieces to the string and then place string on the ground around the garden.

Remove dying or infected plants and dispose of them away from garden.

Rotate crops grow each year to stop the spread of pest from year to year.

<u>Clean tools</u> before moving to other gardens or areas to prevent the spread of different pests.

Utilize companion planting. This is the practice of planting certain plants next to crops to act as a for or preventative pest control. For example chives planted near certain crops can help deter aphids and Japanese beetles.

Controlling Measures

It is important to identify the pest problem in order to use the appropriate control method.

Soft-bodied insects

(aphids, caterpillars, crickets, fleas, flies, mealy bugs, and mites)

Natural remedies

Fatty acid <u>soaps</u>, <u>oil</u>, <u>and water</u> can be combined and sprayed when bees aren't present (night or low temps.). Spray the top of the plant down and the underside of leaves.

Combining <u>2-3 garlic bulbs</u>, 1 quart water, and 4 -5 drops of dish soap acts as a repellant. Blend the blubs whole in a blender with 1 cup water. Add the rest of the water and soap and blend again until it creates a liquid, stain the mixture and store it in a glass jar. When ready to use, mix the concentrate created with 2½ cups of water and spray infected plants.

Low-toxicity treatments

<u>Bacillus thuringiensis</u> (Bt) is a bacterium that acts as a stomach poison to certain bugs and can be found as a spray or power.

<u>Kaolin clay</u> is mixed into a slurry sprayed onto plants to create a film to discourage the insects from eating the plant.

Traps

Yellow flypaper will attract and trap aphids and whiteflies.

Grubs

Natural remedies

Cut off the top and bottom of <u>milk cartons</u> and push them into the ground around the plant creating a collar to discourage cutworms and grubs.

Beneficial <u>nematodes</u> in powder form can be added to water and than added to soil. The nematodes will attack the grubs.

Low-toxicity pesticides

Milky spore granules can be spread through soil and causing grubs to contract a disease that affects Japanese beetle grubs.

Fungus

Natural remedies

Add 2 tbs <u>baking soda</u> to 1 quart water. Use a spray bottle to treat affected areas every few days until gone.

Spray a mixture of equal parts <u>milk</u> <u>and water</u> on affected area. Three treatments per week apart should control the issue.

Low-toxicity treatments

Mix 4 tsp <u>potassium bicarbonate</u> in 1 gallon water. Spray on foliage of affected plants.

Mix 1 tsp <u>neem oil</u>, ½ tsp of dish soap in ½ gallon of warm water. Spray on affected parts of the plant at dawn or dusk when pollinators are not active.

Mites and Beetles

sides

Low-toxicity pesticides

Combine 1 tsp <u>neem oil</u>, ½ tsp of dish soap, and ½ gallon of warm water. Mix the water and soap first then slowly add oil while stirring. Shake frequently while applying and make sure to use within 8 hours. Spray at dawn or dusk when pollinators aren't active.

Mix 3 tbs of dish soap, 2 tbs of <u>orange peel oil</u>, and 1 gallon of water. Shake it well and apply to plants.

Natural remedies

Mix 2 tbs <u>cayenne pepper</u>, 2-3 drops of dish soap, and ½ gallon of water. Let sit overnight then stir and spray on the topside and underneath of leaves. Shake frequently while applying to plant.

Soak Q-tips with the <u>white vinegar</u> and then dab insects directly with the vinegar.

Traps

<u>Pheromone traps</u> use biological scents to attract different insects to the trap and then they become stuck on the trap.

Earwigs, slugs and snails

Natural remedies

<u>Salt</u> acts as a drying agent and kills snails or slugs. Apply directly to the soft body.

A <u>wet newspaper</u> rolled up and fastened with a rubber will attract earwigs. Dispose of newspaper and insects in a plastic bag. Repeat until they are gone.

Placing <u>coffee grounds</u> on the top of the soil near the plants will deter the snails and slugs from traveling to the plant. Use in moderation.

Low-toxicity treatments

Mix 10 drops of <u>clove oil</u> and water in a empty spray bottle filling the bottle with water. Shake when apply to the pest present on or around your plants.

Sprinkle <u>eucalyptus oil</u> around the area where the pests are found and insects will be deterred from the area.

Traps

An <u>electric "Slug Fence"</u> is a ribbon-like barrier that runs on a battery and can go around a plants. It does not shock humans or animals but deters the slug without killing it.

Animals

(moles, gophers, deer, cats, rabbits, and squirrels)

Natural remedies

Mix 10 drops of <u>citrus oil</u>, and 1 tsp <u>cayenne pepper</u> in 1 cup of hot water. Spray around the garden to ward off deer, rabbits, and other wildlife.

Mix 1 egg with ¼ cup of water and spray plants to deter deer from eating them.

Soak a few rags in <u>vinegar</u> and place them on stakes in various areas around your plants. Re-soak plants every 7-10 days. <u>Peppermint oil</u> works as well. This smell will repel rodents, rabbits, and other critters.

Low-toxicity treatments

Blend 1 part <u>castor oil</u>, 2 parts <u>dish soap</u>, and 6 parts water. Use 2 tbs of this mixture and add it to 2 gallons of water and apply it to soil to deter moles.

Traps & Barriers

Use a <u>scissor trap</u> inserted in the ground to kill moles.

Smoke bombs will ward off rodents for a little bit but is no means a long-term solution.

Placing <u>fencing</u> around the plants can deter some of the smaller and larger animals depending on the size.



For reasonable accommodations or alternative formats please contact the Minneapolis Health Department at 612-673-2301 or health@minneapolismn.gov. People who are deaf or hard of hearing can use a relay service to call 311 at 612-673-3000. TTY users call 612-673-2157 or 612-673-2626. Para asistencia 612-673-2700 - Rau kev pab 612-673-2800 - Hadii aad Caawimaad u baahantahay 612-673-3500.